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The Webb Home and Academy.

WILLIAM H. WEBB.

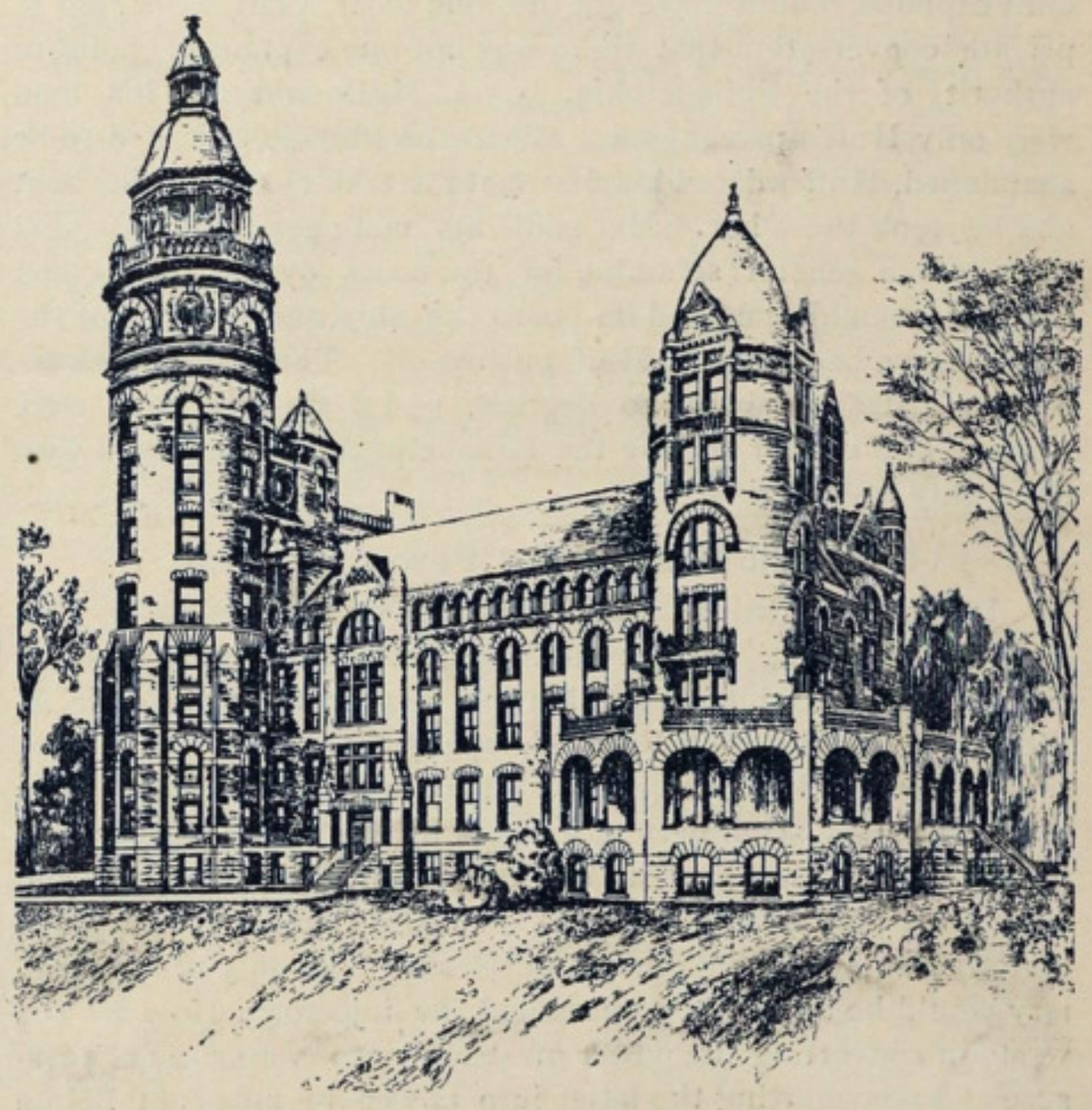
At various times in the past, reference has been made in the REVIEW to the Webb Home for Ship Builders and Marine Engineers, which promises to become as famous an institution as that magnificent retreat for old seamen known as Sailors' Snug Harbor. Now that the institution is open, both as regards the home and academic departments, —although the formal dedication will not take place until April—some detail regarding this grand charity, endowed by William H. Webb, at one time a foremost ship builder of New York, may prove interesting. The institution is not only a home, but there is connected with it a free school for American youths who desire to learn the art of ship building. The home department, which has accommodations for about 100, and which is for the benefit of old couples and old men who have been ship builders but are now without means of support or friends to aid them, has been open since Nov. 2, and a few have been admitted.

The institution is situated on one of the most beautiful spots of Fordham Heights. With a large generosity which is almost unparalled even in these days of munificent giving, Mr. Webb set aside $2,000,000 of his fortune to build and equip his home for ship builders. Of this sum $500,000 has been expended on the site and building. There remains an endowment fund of $1,500,000, the interest of which will perpetually go to support the faculty of the academy, provide scholarships and pay the expenses.

An excellent idea of the building may be obtained from the accompanying illustration, which shows the front elevation. The building, 150 feet in length and 50 feet in width, is of buff brick, with ornate trimmings in terra cotta. The main portion of the building lying between the two towers is four stories in height. Additional room is given by a deep basement below, a high trussed roof with double rows of windows above. At the northern end the building rises to a height of six stories. The tower at this end is 130 feet high, and although in perfect harmony with the rest of the building, represents in its structure the shaft and lantern of a coast lighthouse. There are ten stories in this tower. At the southwest corner there is another round tower six stories high, with a tiled conical roof. The interior of the building is admirably arranged for the purpose for which Founder Webb designed it. Passing up the broad stairs, one enters the large entrance hall. On both sides are parlors, reception rooms, a library, dining room and the offices of the home and academy. At the farther end of the hall broad doorways open upon the pillared verandas, which run along the south and east sides of the building. The passenger and freight elevators are placed at either end of this hall.

A great deal of interest which visitors will take in the institution will center in the large room in the second story, which is utilized as a museum for specimens of marine architecture and where models of shipping craft from the earliest ages are exhibited. The hospital ward and dispensary occupy the southwestern portion of this floor, the other rooms of which are used for laboratories and dormitories. The third floor is devoted exclusively to dormitories. A number of rooms will be reserved for aged and destitute ship builders and their wives. The fourth floor, with its high trussed roof, will be used as an assembly room, lecture room and general workshop—in fact, it is here that the ship building art will be taught to those lads who are lucky enough to be matriculates of the Webb academy.

Mr. Webb is now in his seventy-eighth year. His father was a master-builder before him, and up to the time of his death considered a wealthy man. When William H. Webb was twenty-two years of age his father died and left him his ship yard with a debt of $30,000 hanging over it. He went around to his



father's different patrons and asked them to continue their patronage, as he intended to continue the business. He also went to his father's creditors, told them his plans, and asked their patience. They agreed, and in the course of a few years he had not only paid off all his debts, but had established a successful and lucrative business. Gradually he gained wealth. It was a rule of his throughout his life to save a certain percentage of his earnings, no matter how small those earnings might be. He was benevolent and generous, but he was business-like in even his generosity and benevolence. He always looked after his business himself. In his pet charity described here, he himself thought of and attended to every detail.

The academic department, organized with a view to instructing young men between the ages of sixteen and twenty in the ship building trade and in the line of marine engine building, has also begun to consider applications and make examinations. In this department applicants must prove that they are unable to

(*Continued on Page 8.*)

Testimony Regarding the Philadelphia-Albany Collision.

Although the local inspectors of steam vessels at Port Huron have spent considerable time in investigation relative to the Philadelphia-Albany collision, and have finished their inquiry, they have succeeded in bringing out very little that is new about the men lost in the first yawl that left the Philadelphia. According to the testimony, the Philadelphia did not go down until ten minutes after the second boat had left her. After that Capt. Huff of the Philadelphia and his boat load of twenty-two men heard the men in the other yawl hailing them. In answer to the question of Inspector Danger. "Had you any reason to think, from the sound of the voices, that they were in distress or in the water?" All those testifying replied in the negative. They signalled back to the ill-fated yawl to follow, and later reached Point aux Barques light in safety. The yawl was found on a small island near Port Elgin, Ont., with a hole stove in her port side, and the only theory still advanced is that when the boat was launched she drifted astern under the screw of the Philadelphia and was struck by a paddle, as the rift appears to be made from a blow on the inside of the boat and not from without. The screw of the Philadelphia was out of the water, or nearly so, when the boats were launched.

Referring to the general comment that it was strange that both captains should have got into one boat, Capt. Huff said in private conversation that there was but one captain in point of authority of the Philadelphia. Capt. McDonald and his men were only Huff's passengers. When the Philadelphia had to be abandoned, Huff ordered his first mate to take charge of one boat and he took the other. He made his mate get a compass, and there was a general scramble for the boats by the crews, and Capt. McDonald remained on board the ship and was one of the last to leave before Capt. Huff pushed off. The water was very cold, registering about 40 degrees, and if the lost men were thrown into it after leaving the Philadelphia, the theory is they lived only a short time.

Hydraulic and Electric Power for ships.

In a paper entitled "Some Thoughts on the Design of New York Ferry Boats," read at the New York meeting of the Society of Naval Architects and Marine Engineers, Col. Edwin A. Stevens of the Hoboken Ferry Company says:

"I have under consideration a plan for the working of most of the auxiliary machinery of a vessel by the means of hydraulic power, using a modification of the present combined air and circulating pump, built by the G. F. Blake Company, as a prime motor as well as for its present purposes. The only other auxiliary would be the donkey pump and the injector. How far the waste in converting the power of steam into water under pressure and reconverting the latter into power by means of Pelton wheels and hydraulic rams would offset the losses incident to a large number of small motors is a point admitting of a difference of opinion. The gain in simplicity and repairs, to my mind, is unquestionable, provided the plant be properly designed. I have studied another plan even more advanced than this. It involves a large driving engine of the marine type coupled directly to a dynamo and carefully governed. The dynamo is to supply all the power necessary for the driving, lighting and ventilating of the vessel, the main shafts being as short as possible, thus doing away with the present long and rigid shaft. I may add that, while this plan is eminently interesting, I do not believe that electric science is as yet sufficiently advanced to allow of its application to this branch of marine design."

Qualifications Required of Assistant Inspectors.

Applicants seeking positions as assistant inspectors of steam vessels are now required, after they have been designated for such positions by the secretary of the treasury, to undergo an examination under the direction of the supervising inspector of the district for which they are designated. The rules to govern such examinations are outlined in a letter recently addressed to Supervising Inspector General Dumont by Secretary Carlisle. The secretary says:

"You are directed hereafter to cause all applicants for the position of assistant inspector in the various supervising inspection districts, whose names may be referred to you for that purpose, to be examined by the supervising inspector of the district in which application is made. The examination shall be non-competitive and cover their practical qualifications only, and pertain to the duties of assistant inspectors required by law and by the rules and regulations of the board of supervising inspectors. Each applicant must write a fair, legible hand, spell correctly, and be able to calculate the various problems and examples relating to his particular branch of the service set forth in the general rules and regulations prescribed by the board of supervising inspectors. Each applicant shall, in the presence of the supervising inspector conducting the examination, write a letter, without help or suggestion from any person whatever, addressed to the secretary of the treasury, stating his experience and qualifications. The letter shall contain not less than one hundred words, which shall include the address and signature. During the course of the examination the candidate may have access to the rules and regulations, but shall have no assistance from any person whatever to aid him in his work. The time of the examination shall not in any case exceed a single continuous session of six hours.

"Upon the conclusion of the examination the papers used therein shall be sealed up by the supervising inspector conducting the examination, and transmitted to the supervising inspector general. As soon as practicable after their receipt, an examination of the papers shall be made, and the supervising inspector general shall then transmit them to the secretary, and report the standing of the candidate, as shown by the papers, with such recommendation in the case as he shall consider justified by the circumstances.

"Every applicant shall, before entering upon the examination, satisfy the supervising inspector that he has had, if an applicant for assistant inspectorship of hulls, at least three years' experience as a practical master shipbuilder and superintendent of construction of hulls of steam vessels, either wood or iron, or has been a licensed master or pilot of the highest grade granted upon the waters upon which he has been employed of not less than three years' actual practical experience, under license, which fact must be of record in the treasury department. If an applicant for assistant inspectorship of boilers, he must satisfy the supervising inspector, before examination, that he is a practical master boiler maker, having had at least three years' experience as superintendent of construction of marine boilers, or is a licensed engineer of steam vessels of the highest grade on the waters upon which he has been employed of not less than three years' actual practical experience, under license, which fact must be of record in the treasury department."

Oldest Merchant Ships.

[From Lloyd's Register of Shipping.]

Vessels of the last century are almost extinct, a list of some 20,000 vessels of 100 tons and upwards showing only three which can rightfully claim 100 years of existence, a few others of about the same age having been more or less completely rebuilt. The vessel having the earliest record—the Svanem, built in 1777—belongs to this latter class, having in 1865, after nearly a century of usefulness, been thoroughly overhauled, and practically, if not entirely, rebuilt. She is a small wooden brigantine of Danish origin, and appears to be employed entirely in inland waters.

Next in order comes the Cognac packet, a wooden scow of 169 tons register, which, although dating from 1792 only, really heads the list of centenarians, as she is in her original condition—ordinary repairs, of course, excepted—and bears the further distinction of being the oldest ship now classed at Lloyd's, her class of AE 1 having at the end of 1890 been extended for a further term of four years, after special survey at Harwich. A small wooden brig, named the Elisha, runs her very close, having been built at Whitehaven the same year, but her condition does not appear to justify a class at Lloyd's. She registers 100 tons net, and is at present owned at Belfast.

The Hannah, a wooden brigantine of 108 tons, comes next with ninety-nine years to her credit, having been built in 1794 at Yarmouth, to which port she still belongs; while in 1798 appeared the Ceres of Sweden, a wooden brig of over 200 tons register. She, however, was partially rebuilt in 1848, and can hardly, therefore, lay claim to more than fifty years of existence.

Admiralty Cases at Detroit.

Following is the assignment of cases on the admiralty docket in the United States district court at Detroit. The docket is a long one and will engage the attention of the court until near the middle of February:

Tuesday, Jan. 2: 4,278, Ozias W. Shipman, et al., intg. vs. tug J. P. Clark; 4,297, Joseph Palmer, et al. intg. vs. propeller Magna.

Wednesday, Jan. 3: 3,967, Chester D. Cooley vs. barge Magnet; 3,771, Henry and Frederick White vs. steam barge Laketon; 3,774, Edward Anneur vs. schooner Magnet; 3,777, Joseph P. Ballard vs. scow Brenton; 3,784, Anthony Kunna, et al. vs. schooner Groton; 3,853, Chas. E. Letts, et al. intg. vs. tug Mystic.

Thursday, Jan. 4: 3,997, Phillip Ryan, et al. vs. propeller S. C. Clark; 3,999, The Island Cedar Co. vs. schooner Fannie Campbell; 4,019, William Baxter vs. barge Sweepstakes.

Friday, Jan. 5: 4,028, Samuel F. Hodge & Co. vs. steam barge Samuel Marshall; 4,031, The United States vs. 8,000 pounds of frozen blue pickerel.

Saturday, Jan. 6: 4,070, the United States vs. 1,150½ pounds of celluloid, etc,; 4,087, Gillett Surles vs. steam barge Maud Preston; 4,090, Gus Gravell vs. barge Botsford; 4,108, Wm. Quinlan vs. 412 16-100 tons lump coal.

Wednesday, Jan. 10: 4,055, Decatur B. Miller, et al. vs. Eureka Fire & Marine Insurance Co,

Thursday, Jan. 11: 4,132, Byron Whitaker et al. vs. Wheeling & Lake Erie Railway Coal Co.; 4,139, Henry F. Foss vs. steamer Flora; 4,159, James Carroll vs. yacht Josephine; 4,169, Thos. M. Ryan vs. steamer Lothair.

Friday, Jan. 12: 4,171, Geo. Elsey vs. schooner Riverside; 4,172, Chas. Ebert vs. tug Jessie.

Monday, Jan. 15: 4,179, James L. Higgie et al. vs. tug Daniel L. Runnels; 4,183, The Mills Transportation Co. vs. steamer Monarch.

Tuesday, Jan. 16: 4,188, Harriett N. Page et al. vs. steamer Leuty.

Thursday, Jan. 18. 4,199, Charles F. Dunbar et al. vs. steamer Majestic.

Tuesday, Jan. 23: 4,209, The Michigan Wrecking & Salvage Co. vs. yacht Cora.

Thursday, Jan. 25: 4,212, James Davidson vs. Stephen Baldwin; 4,218, John Stevenson vs. tug Brockway.

Friday, Jan. 26: 4,220, Jenks Ship Building Co. vs. steam barge S. C. Clark; 4,224, William Galorus vs. schooner S. P. Ames.

Monday, Jan. 29: 4,226, Charles D. Thompson vs. steamer City of Glasgow.

Tuesday, Jan. 30: 4,236, Mary Richmire et al., intg., vs. propeller H. C. Thatcher.

Wednesday, Jan. 31: 4,237, Star line of steamers vs. steamer Riverside; 4,238, F. B. Stevens et al. vs. 30,000 feet white pine lumber; 4,239, Independent Fuel Co. vs. steamer Newsboy; 4,246, James B. Campbell vs. tug S. S. Stone; 4,247, Barizilla J. Coller vs. Hawley Bros.' yacht.

Thursday, Feb. 1: 4,248, Fred. Foster et al., intg. vs. barge Harry Bloom; 4,250, Henry N. Botsford vs. schooner John Rice; 4,252, Geo. W. Rollins vs. tug Protector; 4,253, Geo. W. Rollins vs. tug Geo. H. Parker; 4,255, A. M. Conkey vs. 330 tons molding sand.

Friday, Feb. 2: 5,256, The Mackinaw Lumber Co. vs. Hiram D. Hurd et al.; 4,262, Harry Hines et al., intg. vs. schooner St. Clair; 4,267, Edward Stevens et al., intg. vs. tug Jordan Beebe.

Saturday, Feb. 3: 4,272, Edmund Fitzgerald vs. one marine boiler.

Monday, Feb. 5: 4,276, Fred. Desner et al., intg. vs. yacht Rosalia B.; 4,277, Richard McNamara vs. tug Florence.

Tuesday, Feb. 6: 4,281, Ozias W. Shipman vs. steamer Maud Preston; 5,284, Collin McConnor et al. vs. scow Sunnyside; 4,285. Brasell Hoose vs. tug Home Rule; 4,286, Brasell Hoose vs. tug Jessie.

Wednesday, Feb. 7: 4,288, William Klein vs. steamer Maud Preston; 4,290, Alex. Ruelle vs. scow McGrader; 4,294, Michael F. McDonald vs. scow Hattie; 4,295, Edward Allen vs. schooner Eagle Wing et al., intg.

Thursday, Feb. 8: 4,298, James Davidson et al. vs. tug Geo. H. Parker et al., intg.; 4,301, Detroit Dry Dock Co. vs. propeller Ida Burton; 4,303, August W. Werback vs. schooner Nellie B.

Friday, Feb. 9: 4,318, Bay City Iron Co. vs. Stephen Baldwin; 4,319, Lake Superior Towing Association vs. schooner Robert Howlett; 4,320, George T. Arnold vs. engines, boilers, etc. of tug Sea Gull.

Saturday, Feb. 10: 4,322, Alex. Ruelle vs. steamer Ida Burton.

Whaleback Patents.

Editor MARINE REVIEW: I would like to ask, is it possible to get too much of a good thing? Some people seem to think it is. Your correspondent "On the Dock" was recently clamoring in behalf of the whalebacks and their inventor, for fair play, but immediately upon a little streak of light being thrown on the subject, he cries stop, enough, turn the crank! Surely his eyes are delicate, or his capacity for fair play small, that he wants it shut off so soon. He seems to think that "Fairplay" wishes to conceal his identity, (why should he?) but at the same time admits that the term is appropriate. Is that not rather flattering? If "Dennis" has not already "turned the crank" and shut me off, I would like to make a few more observations, although I can not guarantee that they will be exactly to the order of your correspondent "On the Dock," who claims he was discussing whalebacks, not their builder. I prefer both, so as to get at the ideas, as I don't suppose whalebacks have any. I can not see the pertinence of the question he puts in a late issue, when he asks, "If McDougall is so indebted to 'Fairplay' for the brains needed to develop the 'pig,' why did he not propose the idea himself." I think he jumps a little too far to reach this conclusion. But suppose "Fairplay" did supply the brains or whatever else was lacking in the inventor's make up to develop the pigs, it does not therefore follow that he would have any desire to propose the ideas involved, or lay claim to inventions on account of them. Who that knows anything of the subject would care to be known as the author of such ambiguous stuff as that contained in the patent office specifications? This is true not only of his older claims, which savor strongly of the work and ideas of a novice, but also of those made since he began building vessels. It would be quite superfluous to point out all the erroneous ideas contained in these several specifications, as any one at all familiar with the construction of metal vessels can see them at a glance; and besides, it would take up far too much time and space. But I think it would be well to call attention to the absurdity of the claim of invention for the style of construction adopted in the framing of the "pigs," and which any one interested in the subject may find by looking up your issue of May 25. The style of construction he there attempts to describe as original is in reality about as old as himself, and is now almost entirely obsolete. It was first adopted by a builder named McIntyre, who at one time was foreman iron ship builder with R. Napier & Sons, Scotland, but afterwards went to England and there became a builder on his own account. When ballast tank bottoms were introduced he was the first, or among the first, to adopt the style of framing here referred to, and on this account it was named McIntyre's tank, or McIntyre's system of framing. Still, this man made no pretence of being an inventor. The reason is plain. He had worked at the business all his life and thought nothing of this change, but quietly went on letting the "thunder" take care of itself. It has been well said that "Fools rush in where angels fear to tread."

I wish some one would explain on what principles such claims for patents are granted.

FAIRPLAY.

Nearly Half a Million Tons.

Mr. Eugene R. Chamberlain, the newly appointed commissioner of navigation, furnishes us with the following statement of the number and tonnage of steel and iron vessels built on the lakes during the past seven years:

IRON AND STEEL VESSELS BUILT ON THE LAKES DURING THE PAST SEVEN YEARS.

Year ending June 30.	Sail vessels & barges.		Steam vessels.		Total.	
	Number.	*Tonnage.	Number.	*Tonnage.	Number.	*Tonnage.
1893.....	10	13,104	55	81,428	65	94,532
1892.....	5	5,281	50	46,093	55	51,374
1891.....	6	6,309	76	99,309	82	105,618
1890.....	4	4,975	59	75,403	63	80,378
1889.....	1	33	47	53,480	48	53,513
1888.....	4	747	39	35,972	43	36,719
1887.....	1	93	28	34,261	29	34,354
	31	30,542	354	425,946	385	456,488

* Tonnage is registered gross tons.

In General.

Thomas A. Edison says that nickel steel is the metal of the future. Aluminum is too soft; it is light, but it lacks strength.

Eleanor is the name of a new yacht building for William Slater, Providence, R. I. She will be one of the largest steam and sail yachts afloat and will cost about $250,000. She is 231 feet over all, 208 feet on the water line, 32 feet beam and 17 feet 6 inches deep, with a mean draught of 13 feet 4 inches. The area of her ten principal sails will be 14,000 square feet. The engines will be triple expansion with cylinders 18, 28 and 45 inches in diameter and 30 inches stroke of piston. They are being constructed at the same works as the yacht and will be of 1,000 horse power, while the speed of the yacht will be easily 18 knots. Steam will be furnished by two Scotch boilers, limited to 165 pounds pressure, The propeller is four bladed and 10 feet 3 inches in diameter. The yacht will carry coal enough to steam twenty-two days, or to Europe and back, and still have fuel on hand.

THE TIME TO TRAVEL.—Cheaply will be during the holidays. Special rates on the Nickel Plate road.

(Continued from Page 5.)

pay tuition, and must pass an examination in the ordinary branches of common school education, as well as algebra and the rudiments of geometry. It will require three or four years to graduate, according to the ability of the student, and those found to be not fitted will be weeded out. Thirty-five or forty boys can be cared for, and the applicants already number more than a hundred. Many applicants began to prepare over a year ago for the examinations, which have been going on during the past month. The instructors are Mr. Jansen, a Swedish draftsman, and a marine engineer of New York. The founder's refinement and kindliness are most noticeable in the fact that he insists that the old people shall be called his guests. Their rooms are spoken of as "the guest chambers," and the boys he calls "students." He will have nothing that savors of charity. The superintendent of the home is Mrs. Alice Howard Hilton, who has had thirteen years' experience in similar institutions. Mr. Andrew Reed is resident trustee and has his home in a handsome large cottage on the grounds. Mr. Reed is a marine architect and ship builder who has given up his business to accept this post, and his special duty is with the boys.

A Local Attraction Story.

"Local Attraction Jack" is no longer entitled to fame for the stories that gave him an odd nickname. He must surrender the palm to John Chamberlain, marine editor of the Buffalo Express, who tells the following yarn in a recent issue of that paper: "On Sept. 17 last the propeller Susan E. Peck went ashore near Bar point. It was a great puzzle to everybody why she should leave her course. The regular course from Point Pelee to Bar point is less than forty miles, and the vessel and her captain had made it many a time. What was the matter? Late investigation has disclosed the following odd condition of things: The wheelman who was steering the Peck at the time has a cork leg, and it is found that this cork leg has quite a quantity of steel in it. The man was naturally in the near vicinity of the compass a good part of the time, and it seems to be accepted as a fact that the loss of about $20,000 on the Peck for that particular stranding was due to the derangement of the compass by the steel in the wheelman's cork leg."

Forced Draft and Tall Smoke Stacks.

In a paper read at the inaugural meeting of the Society of Naval Architects and Marine Engineers in New York recently, Chief Engineer Melville of the United States navy says:

"I am a firm believer in the benefits of forced draught when intelligently applied and have no patience with the people who blow hot and blow cold on the subject (as I have unfortunately been compelled to experience during the last ten years), who, because an accident occasionally happens with forced draught, immediately say that it is an invention of the evil one and that it ought to be abolished altogether. The same line of argument would probably prevent our using any modern methods in any line of work. As between the two methods of forced draught in most common use, that by closed firerooms and by closed ash-pits, I am decidedly in favor of the latter when it can be applied. I make this proviso for the reason that some may at once ask why, if I am a believer in ash-pit forced draught, nearly all of our large vessels recently designed have forced draught on the closed fireroom system. It is simply because in a war vessel with a protective deck and minute watertight subdivision it is extremely difficult, where there is a number of large boilers, to so arrange the blowers for closed ash-pit forced draught as to ventilate the fireroom thoroughly. This is a point which is sometimes forgotten, but if it is, the fireroom would simply become intolerably hot, and while the boilers themselves will work admirably, the men will simply be killed by the heat. The San Francisco of our navy has ash-pit forced draught, and all who have had experience on her and on other vessels speak in the highest terms of praise of the greater facility, convenience and comfort which attends this method. It is to be noted, also, with this method of forced draught, that when there is any care at all taken in the fireroom to keep the grate bars covered, leaky tubes in the combustion chamber are unknown, while with the closed fireroom forced draught they are not at all uncommon.

"I shall forego the temptation to dwell on this matter of leaky tubes, merely saying that we have been very fortunate in escaping almost entirely every trouble of this kind, which I attribute, in a large degree, to the fact that we have not attempted to get too much work out of our boilers, and will pass on to speak of another method of forced draught which is very old, but which has only been used on board ship within the last year or two. I refer to the matter of high smoke pipes. Tall chimneys are the most common method on shore for getting a strong draught, but prejudice or conservatism has until recently prevented the application of this practice to use on board ship. The Messrs. Denny of Scotland, well known for their enterprise in all matters relating to ship building, were the first to call prominent attention to this matter by a vessel built by them called the Scot, which had smoke pipes 120 feet high above the grate and no other attempt to force the draught, I do not know that any accurate experiments have been made with smoke pipes of steamers to determine just what the increase in draught is for each increase in height, but it has been repeatedly stated that, roughly speaking, we may assume 10 feet of additional height to be equivalent to an additional one-eighth of an inch of air pressure. It can readily be seen, therefore, what a benefit an additional 40 feet of height would be.

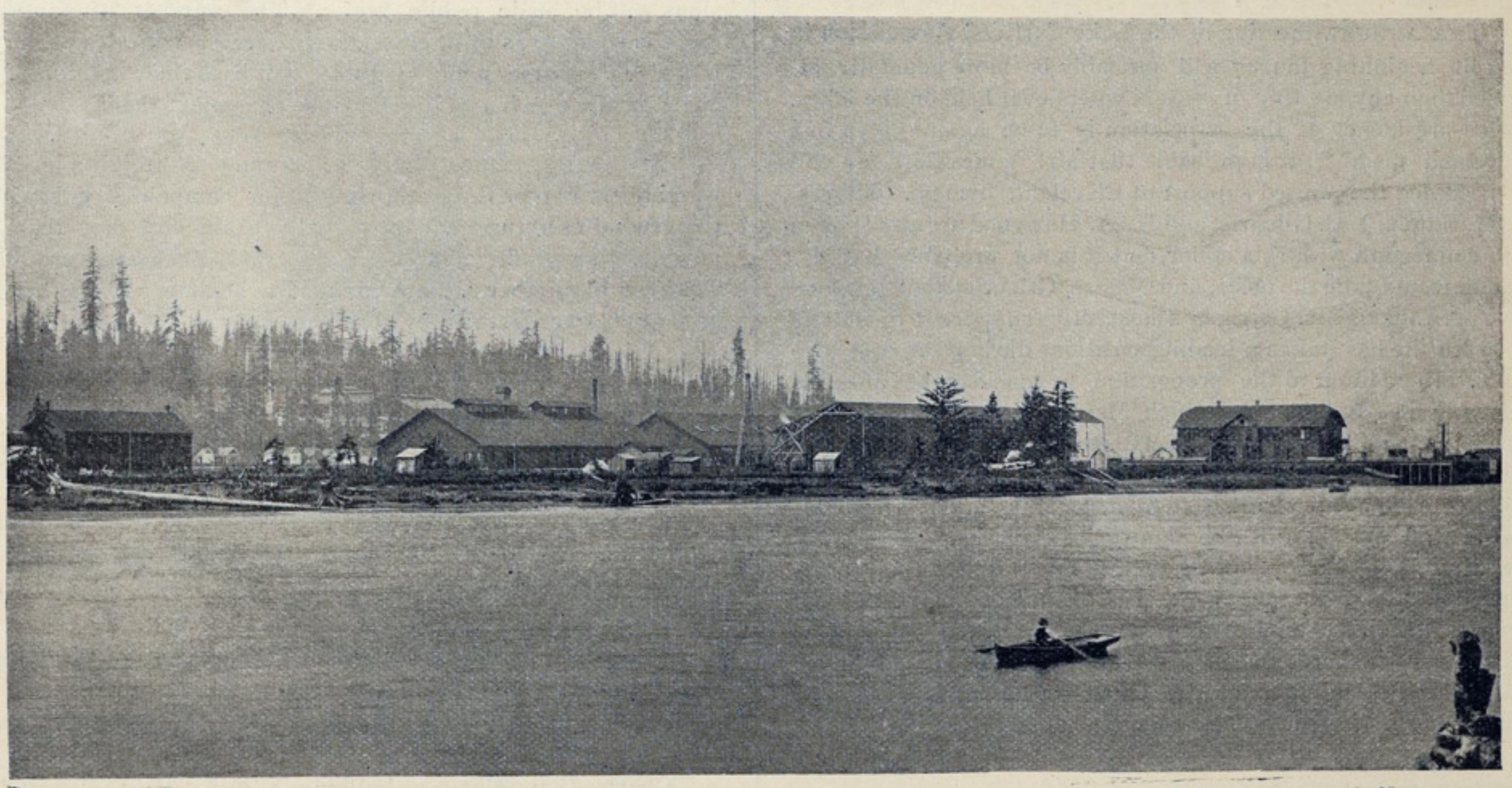
"Taking the suggestion made by the Scot, when we were designing the Brooklyn and the Iowa, I asked to have the smoke pipes made 100 feet high in which I was heartily seconded by the chief constructor of the navy; but it will perhaps surprise you to learn that our professional opinions recommending this matter came very near being overturned by the artistic sense of a gentleman in the navy department who was entirely ignorant of technical matters, but who thought that the vessel's appearance would be spoiled by these high smoke pipes. He so represented the matter to the secretary that the latter required me to submit the reasons why I desired to use these high smoke pipes. As showing the general feeling on this subject, I need only call attention to the fact that the Campania and Lucania have smoke pipes 130 feet high, and no other method of forced draught, and I may say that all our new vessels are now being built with pipes of much greater height than formerly obtained.

"Another method of forced draught which is now coming into vogue is that known as induced draught, where, instead of closing in the fireroom or the ash-pit and forcing air in, the products of combustion are exhausted from the chimney by large fans. Of course, this is only another way of getting the same effect that we get by the use of the steam jet and with which we have all been familiar for many years, the advantages in this case being that there is no loss of fresh water which is a precious commodity on board ship. At a hasty glance, one would not be prepared to expect very much from this method, but the experiments which have been making for some years past in England by Messrs. John Brown & Co. seem to show that this method is very promising, and I understand it is to be fitted to some or all of the large vessels which are now building for the International Navigation Company.

It has been known for some time past that the Union Steamboat Company, as well as the Northern and Lehigh companies, all of Buffalo and controlled by railway companies, have been considering the advisability of constructing new freight boats, but it is hardly probable now that any of the contracts will be let this winter.

Whaleback Ship Yard at Everett.

In the engraving on this page there is presented a full view of the ship yard of the Pacific Steel Barge Company at Everett, Wash., where work has been resumed on the whaleback steamer Everett, which was began several months ago. According to an agreement reached at a meeting of the barge company in New York last week, the boat is to be chartered to the Detrick Steamship Company to run between Portland and San Francisco in the freight and passenger trade. Her length is 361 feet, beam 42 feet, and depth of hold 26½ feet. She is to have a cabin placed on turrets similar to the Christopher Columbus, but shorter, and stateroom accommodations are to be provided in it for 200 passengers. The steamer is arranged to carry 1,000 tons of water ballast when needed. Her power will be ample to drive her sixteen miles an hour. The engine, built by the Frontier Iron Works of Detroit, is a powerful triple expansion, and steam will be furnished by four Scotch type boilers.



SHIP YARD OF THE PACIFIC STEEL BARGE COMPANY.

Completed Hull of the North America.

Although no special cerémony has been arranged for the launching at Cleveland on Saturday, Jan. 6, ot the twin-screw steel steamer North America, first of the Northern line passenger ships, it is probable that a number of ship and engine builders from the coast, as well as the principal lake cities, will witness the event. The sideway launch, peculiar to the lakes, will be especially interesting to the visitors from the coast, and in this vessel it will be interesting also to the lake builders, as the steamer has fine lines, very unlike the common cargo carrying models. The full models are less likely to careen, having less immersion, and are easier lauched, but this is a matter of detail in putting the boat into the water, and can undoubtedly be entrusted to the skill of the builders. The vessel will slide a distance of 60 feet to be over the water, and must drop 4 to 5 feet before reaching the surface; then, as the calculated draught is 8 feet aft and 6 feet forward, it must continue its descent for this added distance. The effect is startling. The weight of this vessel as she presents herself at the launching will be 4,200,000 pounds.

A view of the hull as it now stands on the stocks is especially pleasing. Below the water line she has a rounded stem, which begins from the keel line at a point well aft. The view from the bow discloses buoyancy with an easy entrance, a well rounded bilge and considerable dead rise. Viewed from under her bottom, amidships, her buoyancy is more apparent, and in looking forward from this point, her finely modeled entrance lines are also striking. In the stern the two shafts are enclosed and supported by the hull plating being carried over and around the tubes, from the point where the shafts pierce through and along the after body to the after side of the stern post. The frames of the ship have been shaped to embrace the shaft tubes, and in this respect the example set by the latest English construction has been followed, but owing to the light draught of these vessels, new considerations arose, especially that of an easy water flow to the screws. The study of this subject had to take into account the necessity for a full supply of water to the screws, or in other words the least possible hindrance of the water flow to them must be an essential feature of construction, and the ordinary short projecting shaft tubes, with brackets on the stern post, must only be displaced by a better water channel. Instead of a horizontal web parallel to the keel joining the tubes to the hull, the webs along their bottoms rise and conform to a series of curves with increasing radius as they reach aft. The bottom line of the webs rise as they come att, in an easy wave line, which carries a great body of water from the rising replacement mass directly upon the wheels. By the conformation of the stern line relative to the upper plating of the webs, no obstruction or resistance occurs there to the water flow of the lateral replacement wave. This peculiar design permits of cross-tie plates reaching athwartships from tube to tube and also permits of a very strong construction with but little added material. The shafts are now in place with their propeller hubs on, but the four blades of each wheel are left off from the fear of possible damage at the launching.

IF YOU SEND 50 CENTS TO THE MARINE REVIEW, NO. 516 PERRY-PAYNE BUILDING, CLEVELAND, O., AND YOU ARE NOT SATISFIED WITH THE BOUND VOLUME OF FIFTEEN PHOTOTYPES OF LAKE STEAMERS THE MONEY WILL BE REFUNDED TO YOU.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 516 Perry-Payne building, Cleveland, O Chicago office, (branch), No. 726 Phoenix building.

SUBSCRIPTION—$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC.

	St. Mary's Falls Canal.			Suez Canal.		
	1892.	1891.	1890.	1892.	1891.	1890.
No. vessel passages	12,580	10,191	10,557	3,559	4,207	3,389
Ton'ge, net regist'd	10,647,203	8,400,685	8,454,435	7,712,028	8,698,777	6,890,014
Days of navigation..	223	225	228	365	365	365

Entered at Cleveland Post Office as Second-class Mail Matter.

THE ANNUAL meeting of the Lake Carriers' Association in Detroit beginning Jan. 17 will probably be more generally attended than any meeting of vessel owners ever held on the lakes. If the presidency of the association is to be again given to a Cleveland member, it is probable that Mr. James Corrigan will be accorded the united support of Cleveland owners. Messrs. H. M. Hanna, J. C. Gilchrist and H. A. Hawgood are also spoken of in connection with this honor, but it is not probable that Mr. Hanna would take the office, and Messrs. Gilchrist and Hawgood have been among Mr. Corrigan's most active supporters in matters in which he has taken a leading position during the past two years. In addition to the proposition to consider the question of regulating freights, on which Messrs. J. H. Palmer, M. A. Bradley, John T. Moore and H. G. Dalton are expected to prepare a report in advance of the general meeting, there will be other subjects of importance submitted to the meeting, and it is probable that several sessions will be required to dispose of all the business. The association will be incorporated, unless there arises some objection now unheard of. Disadvantages in the law that permits of a vessel being tied up at some out-of-the-way port on small claims that are in many cases unjust will also be discussed, and if the law can not readily be amended, a plan for a common fund to meet such emergencies may be adopted.

IN THE statement of average freight rates for 1893, published in last week's issue of the REVIEW, it was shown that although the average daily rate on ore from ports at the head of Lake Superior—Ashland, Duluth and Two Harbors—was but 77.1 cents the average rate on all ore moved from these ports during the season was 94.1. This difference in the average of daily rates and the average rate in the ore tonnage is, of course, due to the fact that about 1,500,000 tons was moved under contracts made in the spring at about $1 a ton. Ore buyers can not, then, take the average of daily rates as a basis for lake freight charges in figuring the cost at which iron ore producers can deliver ore on Lake Erie docks. The tonnage average of 94.1 represents the exact cost of moving ore in 1893 from the head of the lakes, as it was secured from the sales agents who reported in all cases the amounts they had shipped and the cost to them per ton.

OWNERS of the Belleville boiler patents demand, among other conditions, that the British admiralty, in order to obtain boilers of this type for a new cruiser, must secure to the Belleville company the benefit of any improvements that may be made in Great Britain for a long period of years. English newspapers have raised all manner of objections to the proposed conditions, but it would seem that the naval authorities are determined in their effort to give the French boilers a trial.

BRADSTREETS, the journal published by the mercantile agency bearing the same name, is usually reliable in statistical matters, but an article in last week's issue, in which a correspondent, evidently from Duluth, attempts to present figures on the mile ton cost of carrying different articles of freight on the lakes during the season of 1893, will not tend to elevate the standing of the paper in the minds of people doing business on the lakes, who know that it is impossible under the present treasury laws to even get reliable figures covering the entire freight movement, irrespective of the charges or a classification of the different kinds of freight.

ADMIRALTY lawyers on the lakes will all have an opportunity next week to form an opinion of the new United States court of appeals, which is vested with final authority in admiralty cases. It is understood that decisions have been prepared in all of the cases submitted recently at Cinciunati to the judges of the circuit having most to do with lake cases, and that their conclusions will be made public Jan. 2. The number of admiralty cases is so large as to interest nearly every marine lawyer on the lakes. Of course none of them will base their opinion of the court on the number of decisions for or against them.

NOTWITHSTANDING the very low range of freights in 1893, we know of two or three transportation companies engaged in the general carrying trade, principally grain and ore, that are now dividing profits of 8 to 10 per cent. Such cases are, however, few in number and are confined to steamers of the highest grade that were fortified by contracts early in the season.

Around the Lakes.

Fire at the steel plant of the Detroit Dry Dock Company in Wyandotte destroyed the pattern sheds of the establishment with a large part of their valuable contents.

Publishers of the American Shipbuilder of New York have spread themselves on a Christmas supplement, which contains elegant half-tone portraits of leading men in the ship building industry.

The sale of the steamer City of Fremont did not take place last week as announced. By consent of the parties interested a postponement until January 20, at 11 a. m., was had without any attempt at sale.

Charles Counselman is building a new elevator at South Chicago with a capacity of 1,250,000 bushels. When it is completed he will have two houses there with an aggregate capacity of 2,500,000 bushels.

The American ship L. Schepp, British schooner Lizzie Dyas and British barkentine Preference were classed last week by the American Shipmasters' Association of New York, publishers of the Record of American and Foreign Shipping.

Bradford R. White of Sandy Bay, a small place near Kewaunee, Wis., claims the destinction of being the pioneer of lake sailors. He is seventy-six years of age and began his first voyage on a lake boat, the schooner Ariadne, at Sackett's harbor in 1833.

The grand lodge of the Shipmasters' Association, made up of the presidents of the local lodges, will meet in Chicago Jan. 16. The National Association of Marine Engineers will meet in Washington about the same time, when the board of supervising inspectors of steam vessels will also be in session in Washington.

Although Mr. F. P. Gordon, assistant to General Manager John Gordon of the Northern Steamship Company, said at the time of his last visit to Cleveland that the officers of the new passenger boats had not as yet been selected, it is generally understood that Capt. Campau, last season in the Northern King, will be given command of the North America.

Illustrated Patent Record.

SELECTED ABSTRACTS OF SPECIFICATIONS ACCOMPANYING PATENTS OF A MARINE NATURE—FROM LATEST PATENT OFFICE REPORTS.

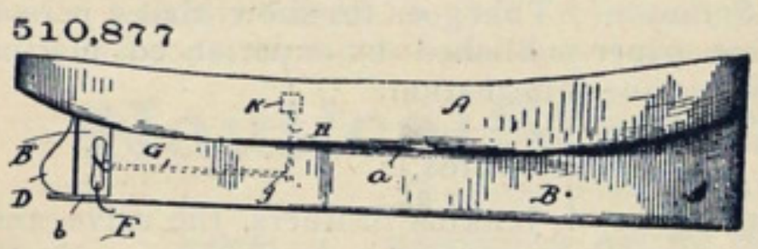
510,736. DREDGER. William T. Urie, Kansas City, Mo., assignor to the Urie Dredge Manufacturing Company, same place. Filed Oct. 28, 1890. Serial No. 369,606. (No model.)

Claim: First, in a dredging machine having an endless chain of buckets, a frame or ladder formed in two parts or sections, one of which is attached to the machine and the other adjustable with relation thereto, and the adjusting rod connected at its ends to said parts or sections, substantially as set forth. Second, in a dredging machine having an endless chain of buckets, the combination with a frame or ladder composed of two articulated parts or sections, the truss-rod having threaded ends and the boxes or bearings secured to said frame and with which said truss-rod engages. Third, in a dredging machine having an endless chain of buckets, the frame herein described formed in two parts or sections, and provided with rails the upper and lower hinges, said upper hinges being movably secured to the upper rails of one part or section of said frame, and the adjusting truss-rod connected to said parts or sections.

510,877. HULL OF STEAM VESSELS. Elisha W. Babcock, Lorain, Ohio. Filed May 11, 1893. Serial No. 473,798. (No model.

Claim: In a steam boat or vessel, a hull having a flat or approximately flat bottom, a keel centrally of and extending lengthwise of the bottom of the hull, said, keel, at its rear end, being cut away to accommodate the location of the rudder and propeller wheel and being sufficiently wide and chambered to accommodate the location and operation of mechanism employed in operatively

510,877



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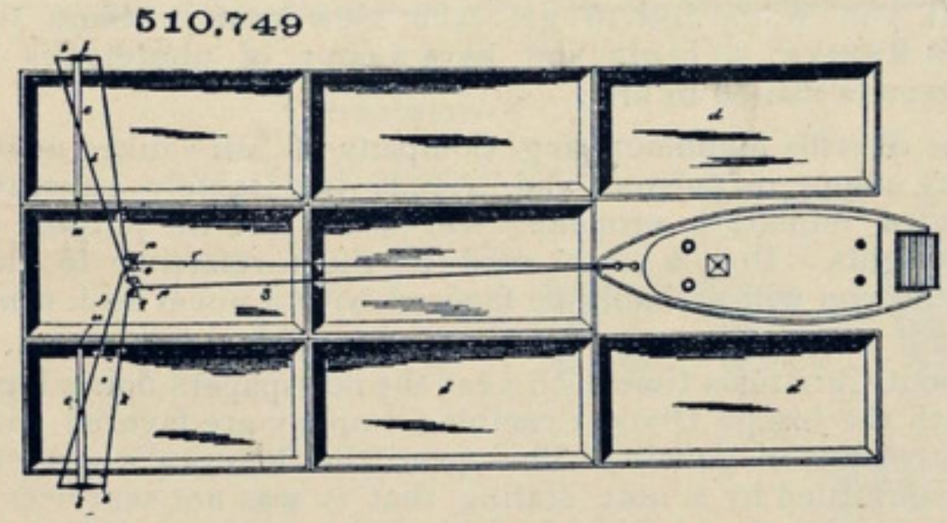


connecting the propeller wheel with the steam engine or driving power, substantially as set forth.

510,970. PROPELLER. Thomas B. Heathorn, London, England. Filed June 26, 1893. Serial No. 478,886. (No model.

Claim: First, the combination with a frame for supporting a propeller blade, of a propeller blade journaled in the said frame, one of the said parts being provided with a crank and the other said part being provided with a bar arranged parallel with the crank, and bands of elastic material encircling the said crank and bar, whereby the propeller blade is restored to its normal position, substantially as set forth. Second, tne combination with the stern post of a vessel, of a frame pivoted thereto, and a propeller blade journaled in the said frame, one of the said parts being provided with a crank and the other said part being provided with a bar arranged parallel with the crank; bands of elastic material encircling the said crank and bar, and a locking device for rigidly securing the propeller blade in the frame when desired. Third, the combination with the stern post, of the frame *c* pivoted to the stern post and provided with the bar *i*, the propeller blade journaled in the said frame and provided with the crank *h*, bands of elastic material encircling the said bar *i* and crank *h*, and a retractible locking device operating to rigidly secure the propeller blade to the frame when desired, substantially as set forth.

510,749. APPARATUS FOR STEERING TOWS. Joseph R. Wilson and Joseph B. Wilson, Short Creek, W. Va. Filed Jan. 5, 1892. Serial No. 417,074. (No model.)

Claim: First, an improved device for steering tows consisting of a rudder placed on each side of the forward part of the tow, and outside thereof in combination with suitable controlling mechanism for controlling said rudders, consisting of ropes extending to and operated from the towing steamer at the rear of the tow. Second, an improved device for steering tows consisting of a rudder mounted upon each side of the forward part of the tow, and outside thereof suitable tillers or yokes rigidly secured to the aforesaid rudders and controlling ropes, substantially as described, leading to the rear of the tow, and so arranged that both rudders will simultaneously partake of the same movement. Third, an improved device for steering tows, consisting of two rudders *a*, mounted at each side of the front of the tow, a tiller or yoke *i* for each rudder, the ropes *l* and *k* leading from opposite ends of opposite rudders and passing through suitable blocks and verging into the controlling rope *s* and the ropes *r* and *m* connecting with opposite ends of opposite rudders, passing through suitable blocks and connecting with the controlling rope *r*, said controlling ropes extending to the steamer, and the mechanism upon the steamer for operating said ropes whereby the rudders will be moved simultaneously in one direction or the other.

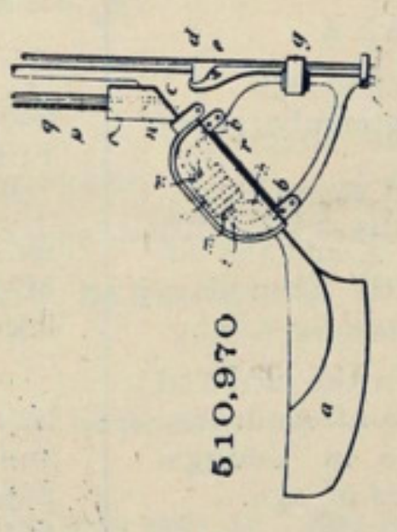
Grain Movement—Ship Building Notes.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., Dec. 28.—Of 15,422,808 bushels of grain of all kinds transhipped at Kingston and Portsmouth during the past season, the various quantities were: Wheat, 5,940,838 bushels; corn, 8,566,301 bushels; peas, 226,576 bushels; oats, 445,587 bushels; buckwheat, 45,560 bushels; rye, 122,297 bushels; barley, 75,649 bushels. Capt. Booth recalls the great difference in in freights notwithstanding the great increase in shipments. Twenty years ago he carried grain from Chicago to Kingston at 28 cents per bushel; this year the rate was from 3 cents to 3¾ cents. On one cargo he cleared $4,000: now it is almost impossible to make $100 on a cargo.

A new barge is building in the Montreal Transportation Company's yard, name not given, and a new steam brig is nearly completed at Garden Island. The keel of another barge is about to be laid at Garden Island, and R. Davis & Son are engaged in building several small pleasure yachts with keels under 30 feet.

510,970



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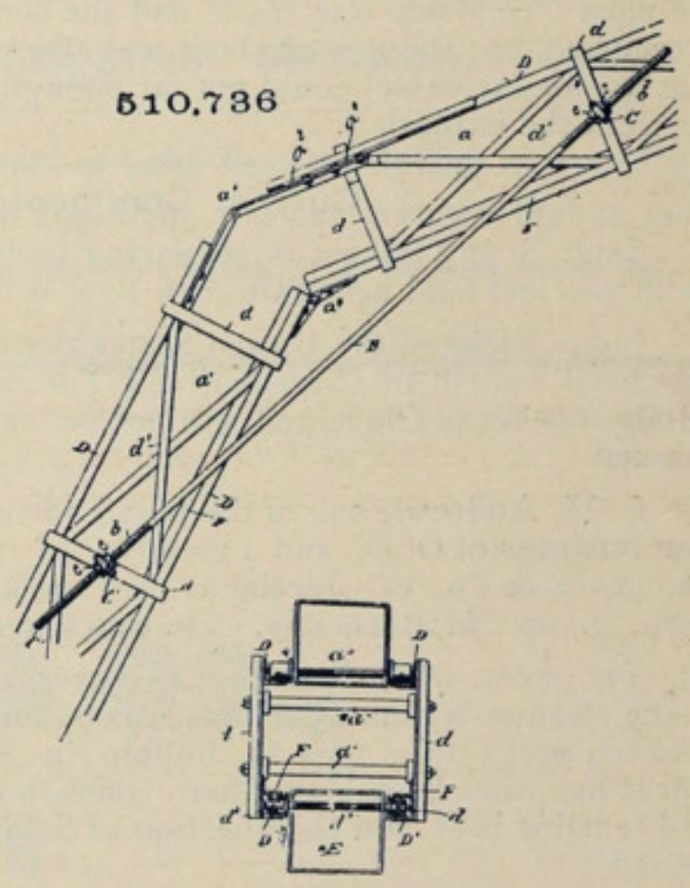

Fastest Vessels in the British Navy.

The fastest vessel in the British navy is the torpedo boat destroyer Havock, which on official trial, a short time ago, attained a mean speed in three hours' run of 26.18 knots, with engines working at from 360 to 370 revolutions per minute and her two locomotive boilers subjected to an air pressure of about 3 inches. The admiralty officers are having built by private contract thirty-eight vessels of this new and distinctive type. They were designed by Mr. W. H. White, director of naval construction, with a view to be superior to other fast vessels building by foreign powers, who have made great advances of late in the construction of such vessels. They are intended to act against torpedo boats, and to have a speed superior to that possessed by such craft at the present time, and, what is of the highest importance, to be capable of maintaining that speed at sea in which torpedo boats have been found to be sadly deficient. Their coal-carrying capacity will enable them to have a radius of action far greater than the present torpedo boats.

An eight hours' trial of the Havock was also had at an economical speed, with a view to ascertain the distance she would steam with the fuel supply she can carry on board, upon which depends her radius of action. It was found that at a speed of 11.2 knots the consumption was under a quarter of a ton an hour, and at 10 knots 3½ cwt. an hour; and as the bunkers have a capacity of sixty tons, it follows that the distance the vessel can steam without coaling is about 3,500 knots. At her full speed trial, loaded, she covered over 78 knots in three hours, in very boisterous weather; and during one part of the trial the speed exceeded 27 knots, that is 31 miles an hour.

British charts of Lake Superior cover the entire north shore. $1.

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store at the principal points of accumulation on the lakes on Dec. 16, 1893:

	Wheat, bu.	Corn, bu.
Chicago	19,711,000	2,555,000
Duluth	9,024,000	.....
Milwaukee	862,000	.....
Detroit	1,618,000	12,000
Toledo	2,647,000	524,000
Buffalo	2,955,000	737,000
Total	36,817,000	3,828,000

At the points named there is a net increase for the week of 179,000 bushels of wheat and 618,000 bushels of corn.

No Submarine Boat.

Secretary Herbert of the navy will recommend that Congress use the submarine boat appropriation of $200,000 for the construction of small surface torpedo boats for coast defense. This decision followed an experiment to determine the safety of a submarine boat, supposing she could discharge under a ship 100 pounds of an explosive, the average charge of an automatic torpedo. An obsolete Lay torpedo shell was moored in 50 feet of water, three fathoms below the surface, and 100 pounds of gun cotton discharged four hundred feet from it at a like depth. The explosion would certainly have caused the destruction of the most formidable war vessel had she been over the spot where it occurred. but the torpedo boat was also sunk, and it is believed that no similar vessel could get far enough away to escape disaster from the explosion.

Current Comment.

Capt. E. B. Graham is preparing to build a steambarge of about 100 feet keel near Sturgeon Bay, Wis.

Judge Ricks of the United States district court, Cleveland, has been called to Cincinnati for Tuesday, Jan. 2, and the admiralty docket in Cleveland will not be called until Thursday, Jan. 4.

C. H. Andrews, one of the best known men in the coal and iron business of Ohio, and a member of the firm of Andrews, Hitchcock & Co. of Cleveland, died at his home in Youngstown, O., on Christmas day. He was seventy years of age.

Tar paper, which was used to cover between-deck hatches in the steamer Nyanza, damaged 19,000 bushels of wheat carried between decks on a trip to Buffalo in September last. The wheat has since been blown four times, but the odor of the tar still remains in it, and the question of liability for the loss is unsettled.

About Dec. 1 announcement was made of the death of Stephen Wilcox of the Babcock and Wilcox Company, and now comes a report of the death of George H. Babcock of the same firm at his home in Plainfield, N. J. Thus both of the founders of a great business in the manufacture of steam boilers have passed away within a few weeks of each other.

James Gordon Bennett's steam yacht Namouna, recently built in England, has several unique features in the electrical installation. Electricity is applied to discoursing sweet sounds on the saloon piano. By turning a switch controlling a small motor, the piano keys are automatically manipulated in a way that rivals the play of skilled hands. This arrangement can, of course, be instantly disconnected at will, and the genuine finger touch substituted.

In discriminating in the matter of freeboard against the whaleback steamer built in England under the patents of the American Steel Barge Company, the British Board of Trade certainly shows a lack of knowledge of the seagoing qualities of this type of vessel. Even among the ship builders and owners in this country who are unfriendly to the whaleback there is no question of safety in allowing them to load as deep as other vessels. The ruling of the British board bars them from fair competition in important trade lines.

Doty Bros. & Co. of Toronto recently removed from the Canadian steamer Sadie a very old marine engine. This steamer was formerly known as the St. Jean Baptiste, and the engine in question was built at Birkenhead, Eng., in 1804. Parts of the machinery were replaced from time to time, but other portions have been in use every year since the engine was built. It is proposed to have the Ontario government purchase the relic and deposit it in the School of Science or some museum.

Darius Davison, naval architect, is working on the plans of a ship that is, he says, to be the coming Atlantic liner. The vessel is to be 1,000 feet long, 80 feet wide, 70 feet in depth, and to have a displacement of 45,000 tons. She will be moved by four propellers driven by a 50,000 horse power engine, and the distinctive features of the ship is a projecting bow and stern, each 150 feet long, an entirely new departure in marine architecture.

If Henry Everett of Cleveland street railway fame secures control of the Richelieu and Ontario Navigation Company, which operates a big fleet of passenger and freight boats on the St. Lawrence river, it is very probable that some life will be put into the St. Lawrence trade next summer. Mr. Everett has been successful in the management of several big corporations—the Richelieu and Ontario is capitalized at $1,500,000—and he has some capable advisers in Cleveland vessel owners who are associated with him in other enterprises.

A subscriber added to a letter, written the MARINE REVIEW recently, the following postscript: "It is quite surprising how ignorant local newspapers here are. Last week the steamer Scranton came in here and she was called the flag ship of the lakes, and it was said that her speed could be reckoned as she made the run from Menominee to Green Bay in three hours. When the John W. Moore came in to load flour, she was styled a duplicate of the Scranton. This goes to show that a person has to read a marine paper published by experienced marine men to get authentic marine information."

Trade Notes.

The Philadelphia office of Jenkins Brothers, the valve and packing manufacturers, will be removed from No. 21 North Fifth street to No. 117 North Fourth street.

Sometimes a friend surprises you with a pretty gift at Christmas and you would like to get even New Year's. Send the MARINE REVIEW 50 cents and have a copy of phototypes of lake steamers mailed to him.

The Sheriffs Manufacturing Company of Milwaukee is distributing among its patrons and friends handsomely executed and plated miniature propeller wheels to serve the purpose of paper weights. Drop a postal card to them referring to this notice and you will probably be favored with a novel desk ornament.

About Christmas time each year the newspapers doing business with the Joseph Dixon Crucible Company are favored with an assorted box of pencils. This year the REVIEW'S present was accompanied by a note stating that it was not sent with a view to receiving a notice for it, but as a good pencil is thoroughly appreciated in newspaper work, we can not refrain from acknowledging this favor from the company that has attained such a high standard in its line.

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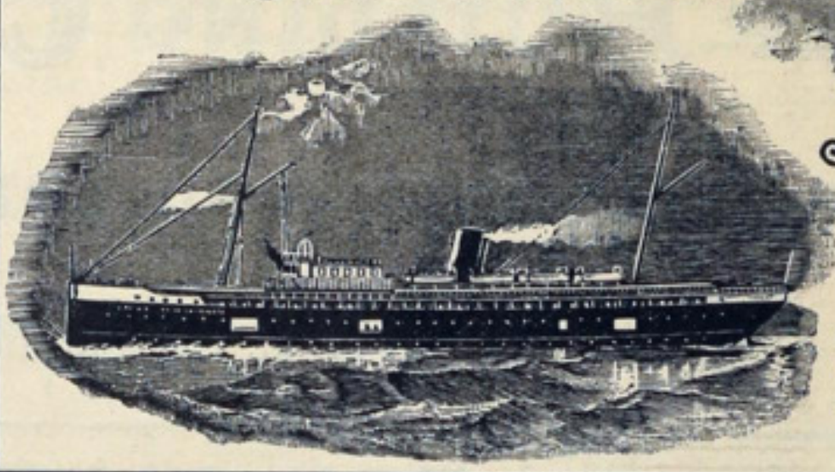

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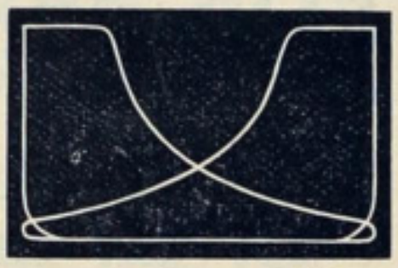

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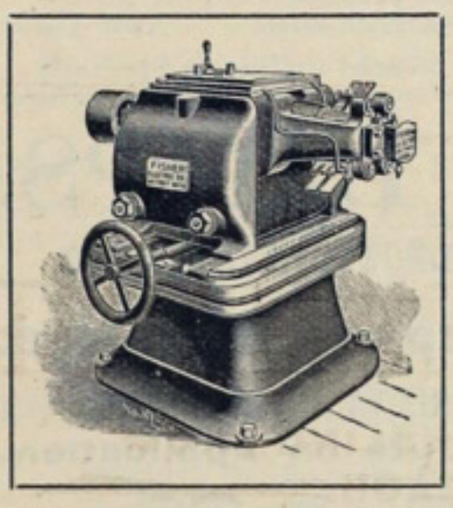

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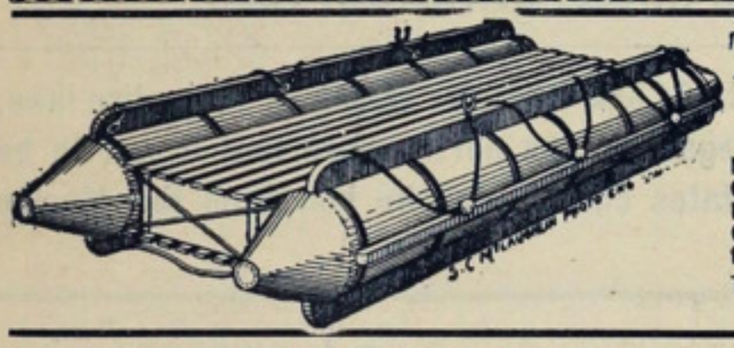

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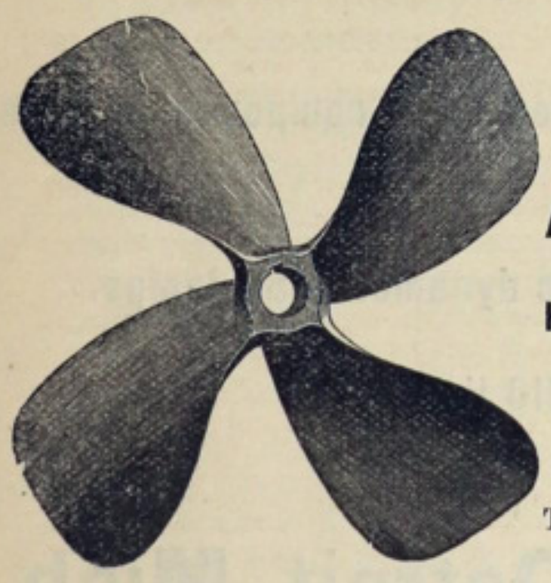

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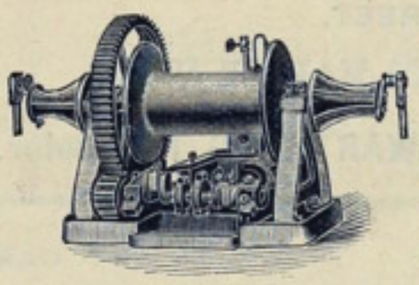

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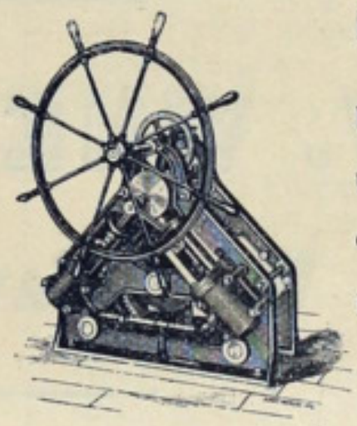

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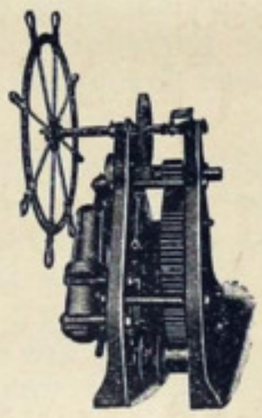

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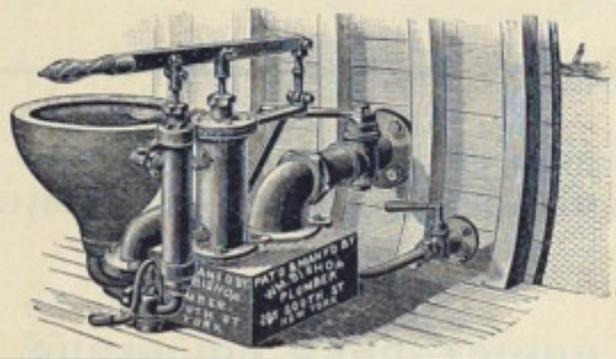

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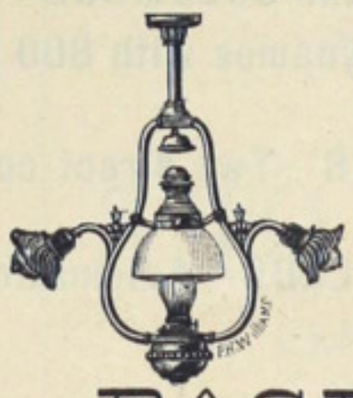

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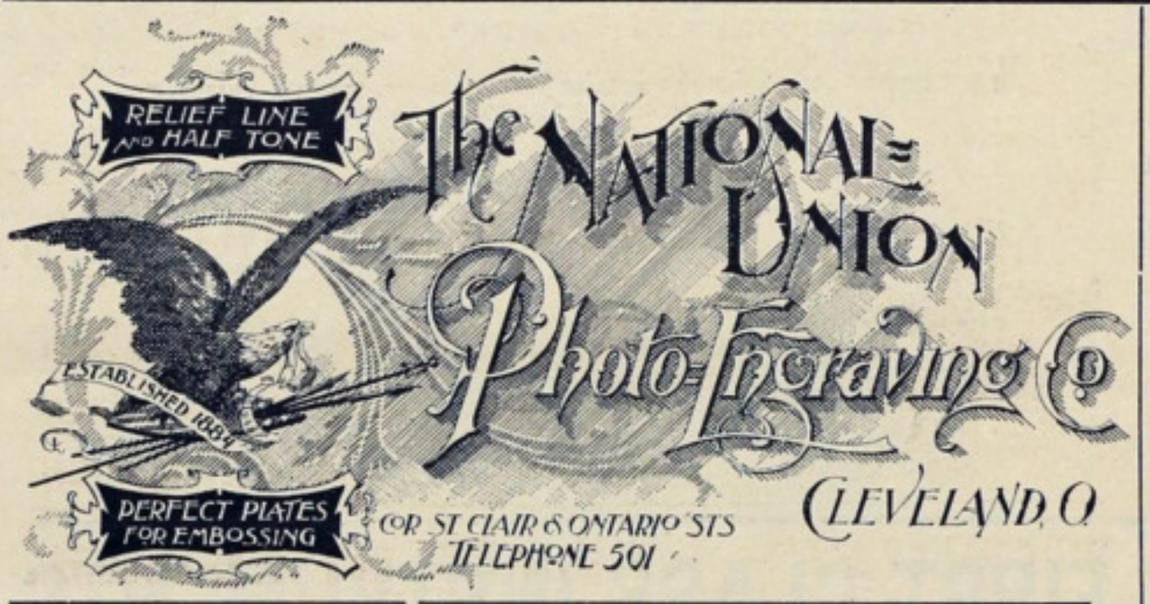

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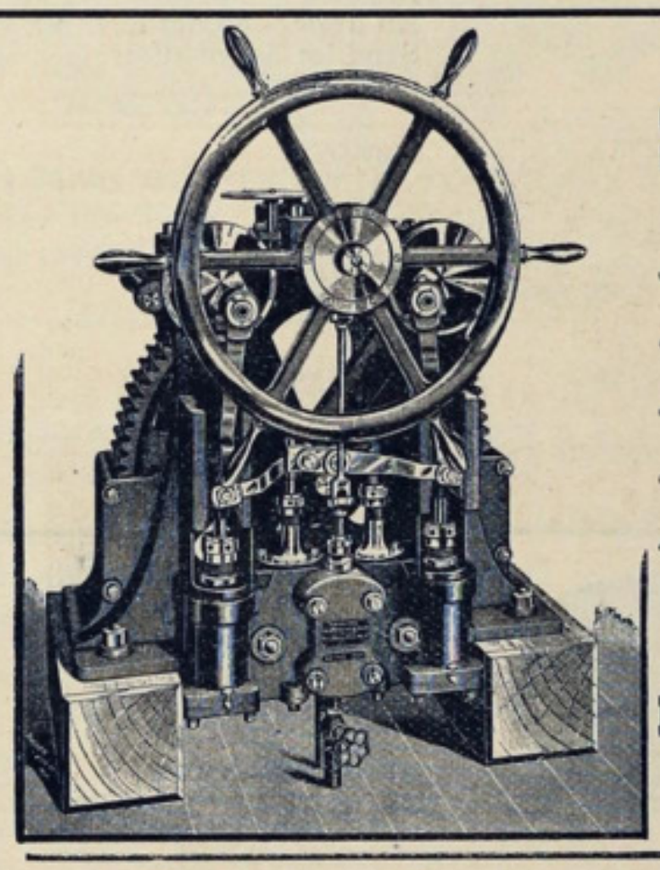

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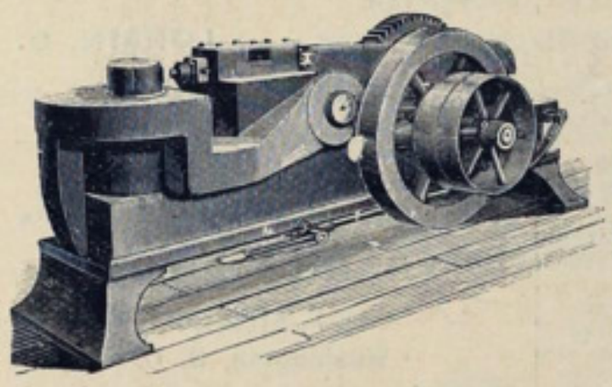

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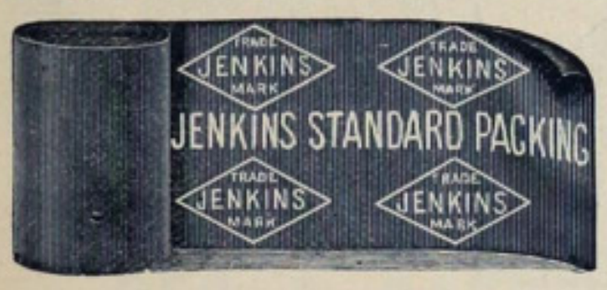

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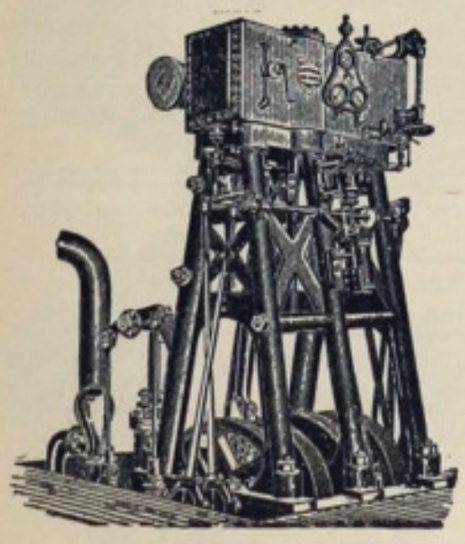

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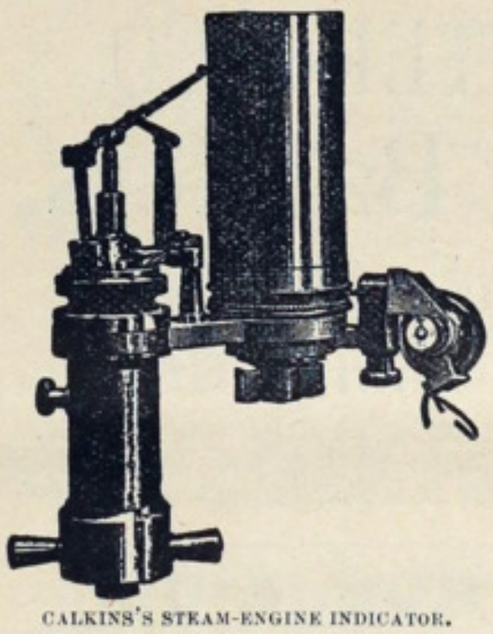

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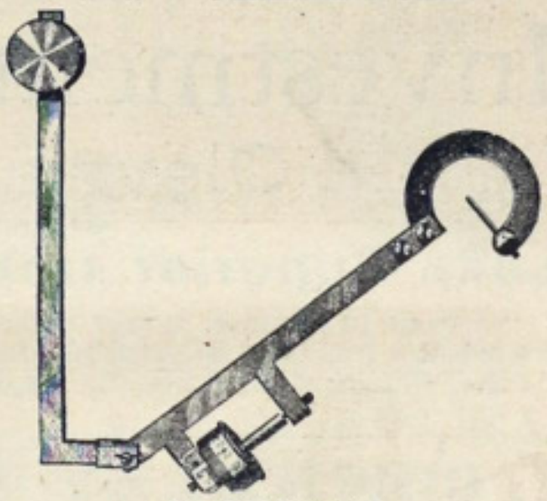

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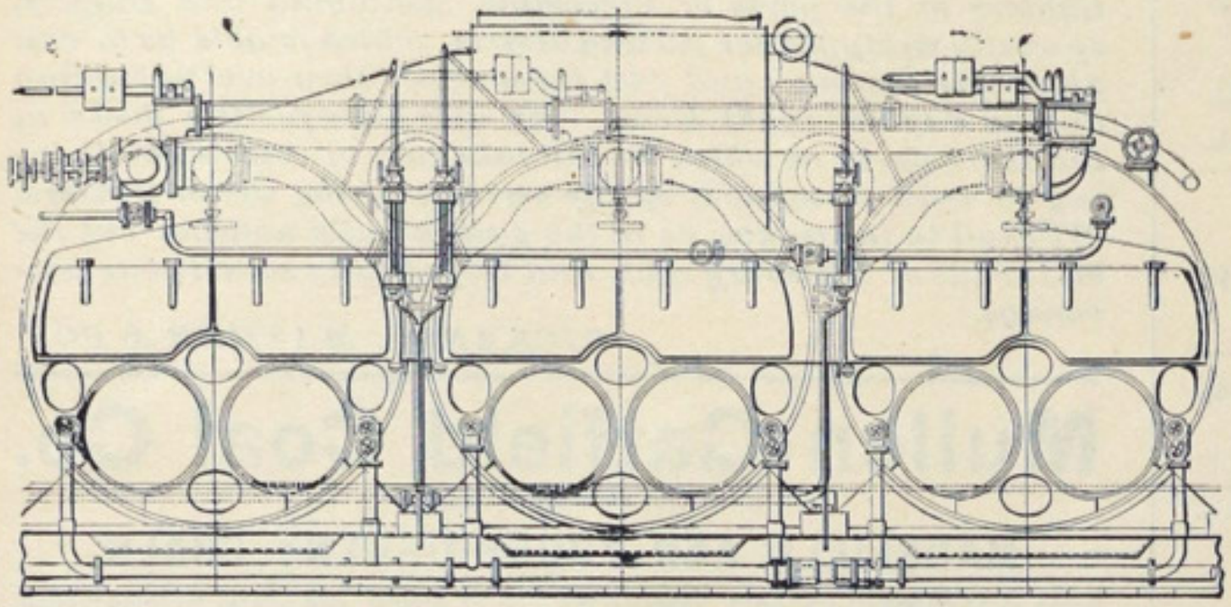

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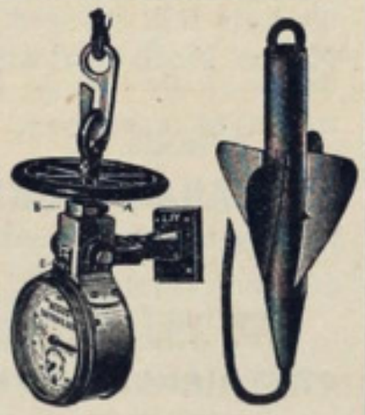

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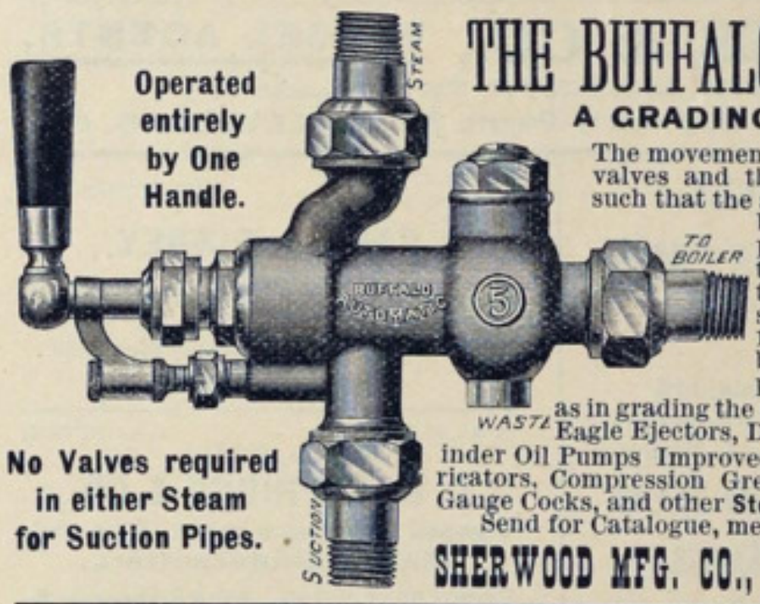

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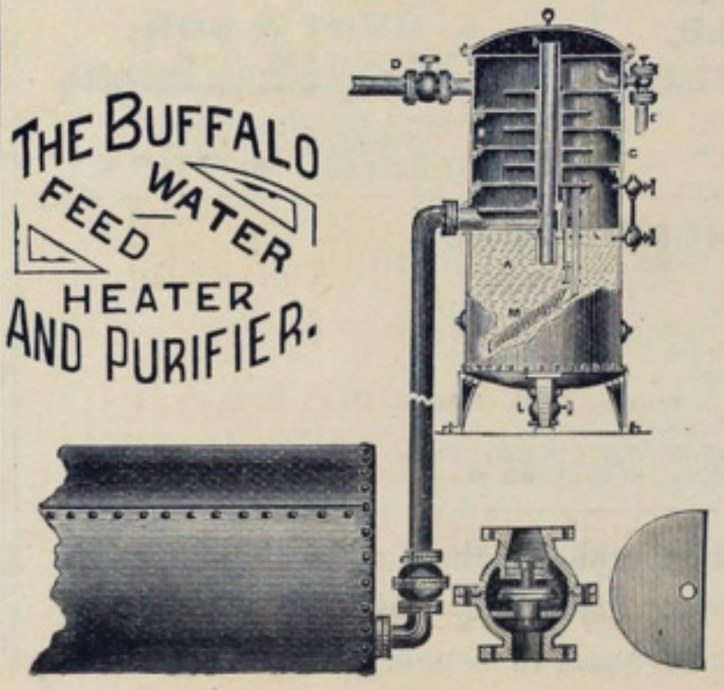

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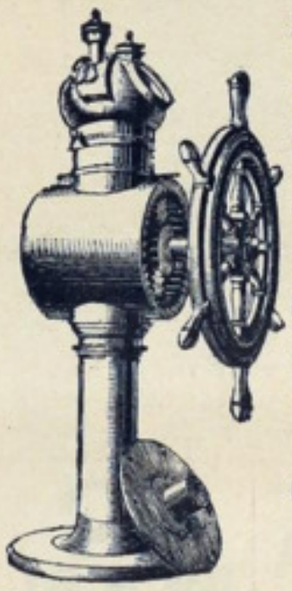

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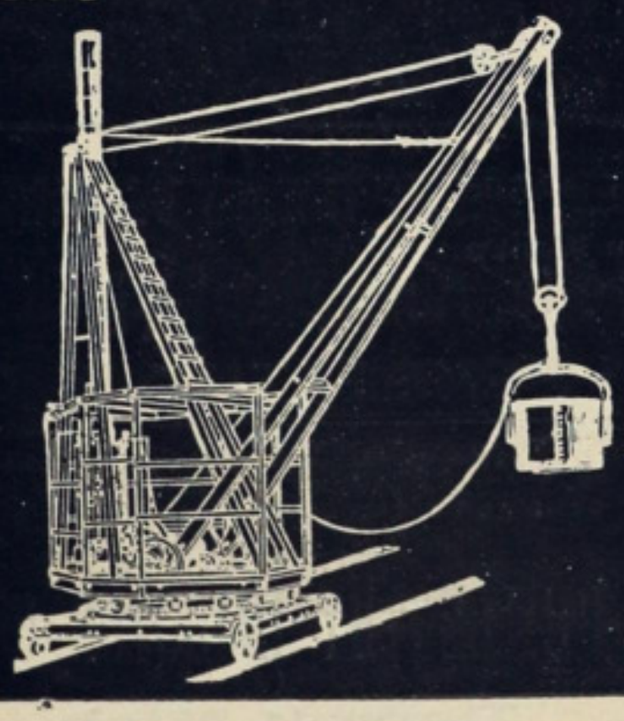

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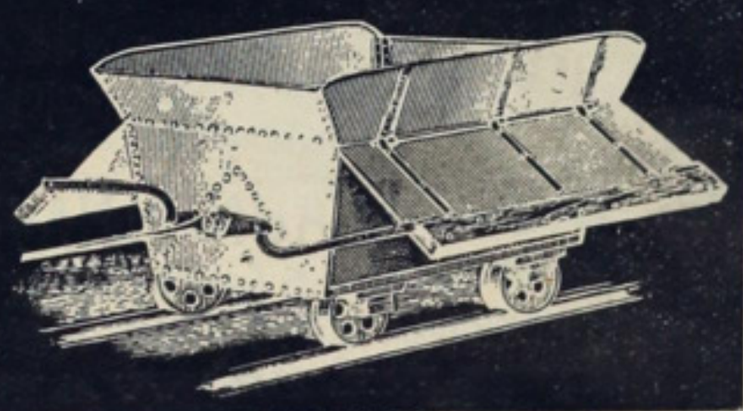

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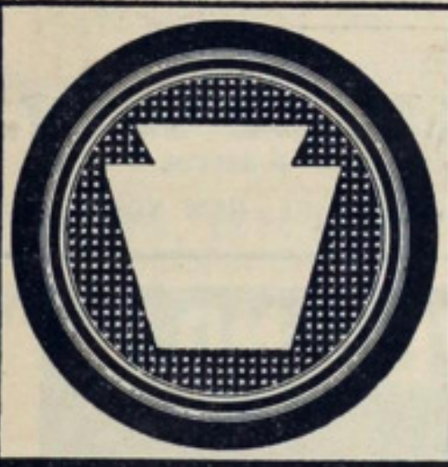

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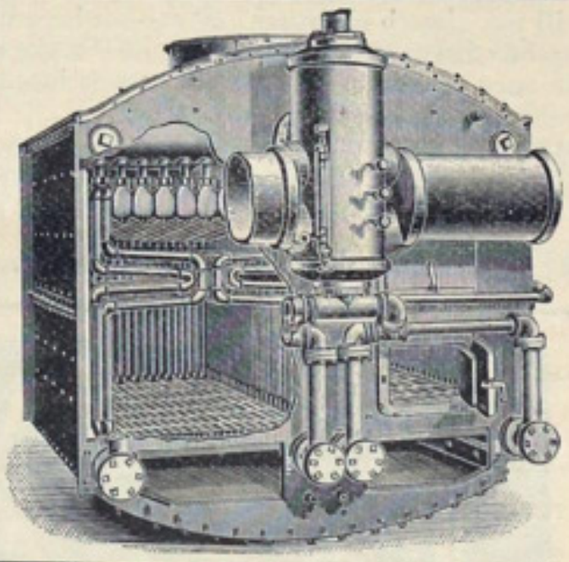

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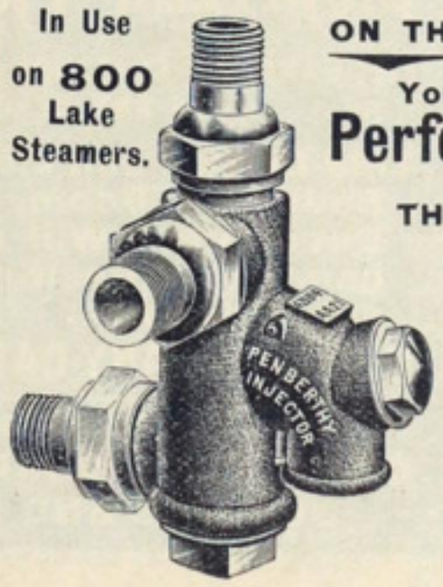

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